Remarks/Arguments:

Reconsideration and allowance of the above-identified application is respectfully requested. This amendment adds no new claims, and is provided to amend paragraph 17, and claims 1 and 9. No new matter has been added. Upon entry of this amendment, claims 1-16 will be pending. For simplicity, all citations to the specification will refer to the paragraph numbers used in the application's Patent Application Publication, U.S. 2004/0160360A1.

Objections to the Specification

The Examiner has objected to the specification at paragraph 17 as being awkwardly phrased. Accordingly, the Applicants have amended paragraph 17 of the specification as suggested by the Examiner. The amendments to paragraph 17 are not intended to change the scope of the specification, but merely clarify the points noted by the Examiner. Therefore, the Applicants respectfully request the withdrawal of the objection to the specification.

Rejections of the Claims under 35 U.S.C. 102(b)

The Examiner has rejected claims 1-16 under 35 U.S.C. 102(b), as being anticipated by U.S. Patent No. 6,487,499 of Fuchs et al., (hereinafter referred to as Fuchs). Specifically, the Examiner points to Fuchs as disclosing a satellite data collector, a satellite velocity calculator, a pseudo velocity calculator, and a satellite acquisition information calculator, purportedly anticipating the invention as claimed by the Applicants in amended claim 1.

The Fuchs Patent discloses a system that uses GPS measurements obtained at a reduced number of fixed site GPS receivers to create a wide area model of the GPS constellation. The model is then used by a position server to send initialization information to mobile devices such that GPS processing elements in the mobile devices can generate pseudo range and pseudo range rate predictions. This data then allows a GPS correlator to rapidly detect and measure pseudo random (PN) code

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phase delays from a plurality of satellites, which are returned to the position server and used to determine the position of the mobile device.

As shown in Fuchs FIG. 2A, the model is first created including a number of correction values. The model is then used to create a geometric range model from a rough position estimate of the mobile device and a real time estimate of satellite position. The geometric range model is then adjusted by the correction values (such as ionosphere/troposphere delays) to produce the pseudo range model. Then, as shown in FIG. 2B, the pseudo range model is used to estimate delays of signals from the satellite to the mobile device and allow a frequency and delay search "window" to be created for detecting satellite signals at the mobile device. The mobile device then provides only the sub-millisecond PN code phase information received in this window to the position server. The position server uses the PN code phase information from the mobile device and other data to determine a mobile device location (see col 11, lines 39-46).

In regard to the satellite data collector as claimed by the Applicants in claim 1, the Examiner points to the conventional GPS receivers 112 of Fuchs FIG. 1 as disclosing a satellite data collector for collecting satellite orbital information and pseudo range between a satellite and at least one of a mobile station (MS) and a base station (BS) of more than three consecutive times from a plurality of satellites. However, in Fuchs, the conventional GPS receivers 112 do not collect pseudo range information between a satellite and mobile stations (MS). In Fuchs FIG. 1, the position server receives GPS measurements from the receivers 112, and receives the sub-millisecond PN code phase information from the MS (see col. 11, lines 39-46). That is, in Fuchs, the *position server*, rather than the receivers 112, collects pseudo range information between a satellite and mobile stations (MS).

In regard to the satellite velocity calculator and the pseudo velocity calculator as claimed by the Applicants in amended claim 1, the Examiner points to the wide area model that is disclosed by Fuchs and described above as disclosing a calculator for calculating velocity of satellites relative to the Earth-Centered, Earth-Fixed

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(ECEF) coordinate system using the satellite orbital information, and calculating pseudo velocities between the MS and each satellite observed by the MS at a position measurement time of the MS using the velocity of satellites.

Specifically, the model as disclosed by Fuchs is a two part model, including a geometric range model which requires a rough estimate of mobile device position and a real-time estimate of satellite position, which is then corrected to compensate for clock error and ionosphere/troposphere errors, to produce the pseudo range model. The pseudo range model is then used to create a search window for detecting satellite signals in a range of frequencies and delays that are determined using satellite movement information. However, the Fuchs model does not disclose nor reasonably suggest a pseudo velocity calculator that calculates a pseudo velocity *using only* a velocity component directed to the MS as claimed in amended claim 1. The Applicants have amended independent claims 1 and 9 to more clearly reflect that the pseudo velocity is calculated using only a velocity component directed to the MS. This is not new matter and is reflected in the specification (see for example, paragraph 106).

The Examiner points to Fuchs columns 3 and 4 as disclosing a system for calculating a pseudo velocity directed to the MS. However, this determines the "changing pseudo range between the mobile device and each of a plurality of satellites" (i.e., col. 4, lines 8, and 21-23). The Applicants assert that this is not the same as calculating a pseudo velocity using only a velocity component directed to the MS, especially in regard to calculating a Doppler shift.

Further, in regard to the satellite acquisition information calculator as claimed by the Applicants in Claim 1, the Fuchs Patent does not disclose nor reasonably suggest a calculator for receiving the pseudo velocity calculated *using only* a velocity component directed to the MS and calculating a Doppler shift. The Fuchs Patent addresses frequency effects resulting from the ionosphere/troposphere, but does not disclose nor reasonably suggest determining a velocity using only a velocity component directed to the MS for Doppler calculation.
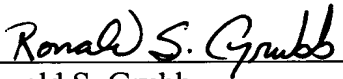
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The Applicants further believe that the above arguments also apply to the rejection of independent claim 9 as amended. Therefore, the Applicants respectfully request the withdrawal of the rejection of independent claims 1 and 9, and respectfully request the withdrawal of the rejection of dependent claims 2-8 and 10-16, which are dependent from the claims 1 and 9, respectively.

Conclusion

In view of the above, it is believed that the application is in condition for allowance and notice to this effect is respectfully requested. Should the Examiner have any questions, the Examiner is invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

Ronald S. Grubb

Ronald S. Grubb
Reg. No. 48,672
Attorney for Applicant

Dated: _____ May 17 ____, 2006
Roylance, Abrams, Berdo & Goodman, L.L.P.
1300 19th Street, N.W., Suite 600
Washington, D.C. 20036
T: (202) 659-9076

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